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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,801	07/27/2001	Zine-Eddine Boutaghou	S01.12-0726/STL 9815	2160

7590 07/08/2003

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EXAMINER	
RENNER, CRAIG A	
ART UNIT	**PAPER NUMBER**
2652	9

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/916,801	Boutaghou et al.
Examiner	**Art Unit**
Craig A. Renner	2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *28 May 2003*

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above, claim(s) *5-8 and 16-44* is/are withdrawn from consideratio

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-4, 9-11, 14, 15, and 45* is/are rejected.

7) ☒ Claim(s) *12 and 13* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *27 Jul 2001* is/are a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examine

If approved, corrected drawings are required in reply to this Office action.

12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *3 and 6*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Election/Restriction

1. Applicant's election of "species IV", upon which "claims 1-15 and 45" are identified, in Paper No. 8, filed 28 May 2003, is acknowledged. It is noted, however, that claims 5-8 do not read on elected species IV as this species does not include, for instance, "a plurality of transversally extending bottom surfaces" as set forth in claims 5-6 and "a plurality of longitudinally extending bottom surfaces" as set forth in claims 7-8. These limitations are disclosed with respect to species VI (FIG._13) and species V (FIGS._12 and 12-1), respectively. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Accordingly, claims 5-8 and 16-44 are withdrawn from further consideration pursuant to 37 C.F.R. § 1.142(b) as being drawn to one or more non-elected inventions/species, there being no allowable generic or linking claim.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 C.F.R. § 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it states that the inventor is a "sole inventor of the subject matter which claimed," however, plural inventors are listed.

Drawings

3. The drawings are objected to because FIGS. 4, 6, 15, 17 and 22 should be designated by a legend such as --PRIOR ART-- in order to clarify what is applicant's invention. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

5. The disclosure is objected to because of the following informalities:

a. In line 21 on page 18, "Slider 174" should be changed to --Slider 196-- in order to be consistent with the remainder of the disclosure.

b. In line 23 on page 20, "surfaces 224, 226, 226 and 230" should be changed to --surfaces 224, 226, 228 and 230-- in order to be consistent with the remainder of the disclosure.

Appropriate correction is required.

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 U.S.C. § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

8. Claims 1-4, 10-11 and 45 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sakasegawa et al. (JP 04-032081).

With respect to claims 1-4 and 10-11, Sakasegawa teaches a disc head slider (FIG. 1, for instance) comprising a slider body having a bearing surface (1), a cavity dam (2) and a sub-ambient pressure cavity (includes 3-4), the sub-ambient pressure cavity having a cavity floor, a

plurality of sides and a depth that progressively varies between a point on one of the sides and a corresponding point on an opposing side (as shown in FIG. 1, for instance), and wherein the cavity floor comprises a plurality of substantially flat bottom surfaces (3 and 4) separated by at least one elevational change (as shown in FIG. 1, for instance) [as per claim 1]; wherein the slider body further comprises a surface that includes an inside edge (i.e., the left edge facing out of the paper, as shown in FIG. 1, for instance) and an outside edge (i.e., the right edge facing into the paper, as shown in FIG. 1, for instance); an inside rail (left-most 1) is disposed on and extends from the surface proximate the inside edge and forms a first portion of the bearing surface; and an outside rail (right-most 1) is disposed on and extends from the surface proximate the outside edge and forms a second portion of the bearing surface [as per claim 2]; wherein the sub-ambient pressure cavity further comprises a longitudinal axis and the plurality of bottom surfaces comprises a first bottom surface (3) positioned substantially on one side of the longitudinal axis (as shown in FIG. 1, for instance, i.e., in as broad as the term "substantially" may be construed); and a second bottom surface (4) positioned substantially on the other side of the longitudinal axis (as shown in FIG. 1, for instance, i.e., in as broad as the term "substantially" may be construed), the depth of the first bottom surface being different than the depth of the second bottom surface (as shown in FIG. 1, for instance) [as per claim 3]; wherein the sub-ambient pressure cavity further comprises a transversal axis and the plurality of bottom surfaces comprises a first bottom surface (3) positioned substantially on one side of the transversal axis (as shown in FIG. 1, for instance); and a second bottom surface (4) positioned substantially on

the other side of the transversal axis (as shown in FIG. 1, for instance), the depth of the first bottom surface being different than the depth of the second bottom surface (as shown in FIG. 1, for instance) [as per claim 4]; wherein the sub-ambient pressure cavity further comprises a longitudinal axis; the plurality of bottom surfaces comprises a total of four bottom surfaces (i.e., two coextensive surfaces labeled 3 and two coextensive surfaces labeled 4); and two bottom surfaces (i.e., one of the surfaces labeled 3 and one of the surfaces labeled 4) are positioned substantially on a first side of the longitudinal axis and two bottom surfaces (i.e., another of the surfaces labeled 3 and another of the surfaces labeled 4) are positioned substantially on a second side of the longitudinal axis (as shown in FIG. 1, for instance, i.e., in as broad as the term "substantially" may be construed) [as per claim 10]; and wherein the sub-ambient pressure cavity further comprises a transversal axis; and two bottom surfaces (i.e., two coextensive surfaces labeled 3) are positioned substantially on a first side of the transversal axis and two bottom surfaces (i.e., two coextensive surfaces labeled 4) are positioned substantially on a second side of the transversal axis (as shown in FIG. 1, for instance) [as per claim 11].

With respect to claim 45, Sakasegawa teaches a disc drive comprising a disc rotatable about a central axis and having a recording surface (line 3 of the CONSTITUTION, for instance); and disc head slider means (includes 3-4, for instance, in at least an equivalent structural sense) for carrying a transducer (6) at a fly height relative to the recording surface during rotation of the disc and for affecting a characteristic of sub-ambient pressure formed within a sub-ambient pressure cavity during rotation of the disc (lines 1-20 of the Abstract, for instance).

9. Claims 14-15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Itoh et al. (US 6,021,020).

Itoh teaches a disc head slider (FIGS. 25(A-C), for instance) comprising a slider body (203a) having a bearing surface (2a), a cavity dam (5) and a sub-ambient pressure cavity (includes 3, 32, and between 5 and 32), the sub-ambient pressure cavity having a cavity floor that includes at least three different depths (i.e., a first depth at 3, a second depth at 32, and a third depth between 32 and 5), and wherein the cavity floor comprising a plurality of substantially flat bottom surfaces separated by at least one elevational change (as shown in FIG. 25A, for instance) [as per claim 14]; wherein the slider body further comprises a surface that includes an inside edge (i.e., the right edge facing out of the paper, as shown in FIG. 25A, for instance) and an outside edge (i.e., the left edge facing into the paper, as shown in FIG. 25A, for instance); an inside rail (adjacent right-most 31b) is disposed on and extends from the surface proximate the inside edge and forms a first portion of the bearing surface; and an outside rail (adjacent left-most 31b) is disposed on and extends from the surface proximate the outside edge and forms a second portion of the bearing surface [as per claim 15].

10. Claims 1-2, 9 and 14-15 are rejected under 35 U.S.C. § 102(e) as being anticipated by Berg et al. (US 6,483,667).

With respect to claims 1-2 and 9, Berg teaches a disc head slider (220) comprising a slider body having a bearing surface (includes 140), a cavity dam (170) and a sub-ambient

pressure cavity (includes 176, 252, 254 and 256), the sub-ambient pressure cavity having a cavity floor, a plurality of sides and a depth that progressively varies between a point on one of the sides and a corresponding point on an opposing side (as shown in FIG. 4, for instance), and wherein the cavity floor comprises a plurality of substantially flat bottom surfaces separated by at least one elevational change (as shown in FIG. 4, for instance) [as per claim 1]; wherein the slider body further comprises a surface that includes an inside edge (adjacent 134) and an outside edge (adjacent 136); an inside rail (140) is disposed on and extends from the surface proximate the inside edge and forms a first portion of the bearing surface; and an outside rail (142) is disposed on and extends from the surface proximate the outside edge and forms a second portion of the bearing surface [as per claim 2]; and wherein the plurality of bottom surfaces comprises four bottom surfaces (176, 252, 254 and 256) that are each positioned at different depths from one another (as shown in FIG. 4, for instance) [as per claim 9].

With respect to claims 14-15, Berg teaches a disc head slider (220) comprising a slider body having a bearing surface (includes 140), a cavity dam (170) and a sub-ambient pressure cavity (includes 176, 252 and 254), the sub-ambient pressure cavity having a cavity floor that includes at least three different depths (i.e., a first depth at 176, a second depth at 252, and a third depth at 254), and wherein the cavity floor comprising a plurality of substantially flat bottom surfaces separated by at least one elevational change (as shown in FIG. 4, for instance) [as per claim 14]; wherein the slider body further comprises a surface that includes an inside edge (adjacent 134) and an outside edge (adjacent 136); an inside rail (140) is disposed on and extends

from the surface proximate the inside edge and forms a first portion of the bearing surface; and an outside rail (142) is disposed on and extends from the surface proximate the outside edge and forms a second portion of the bearing surface [as per claim 15].

Claim Rejections - 35 U.S.C. § 103

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. § 102(e), (f) or (g) prior art under 35 U.S.C. § 103(a).

Pertinent Prior Art

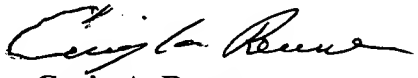
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Dorius et al. (US 5,872,686), Ito et al. (US 5,917,678), Kohira et al. (US 2002/0135941), Miyane (JP 11-120728), and Cha (WO 00/28528), which each individually teaches a slider with a variable height sub-ambient pressure cavity.

Allowable Subject Matter

13. Claims 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. Any inquiry concerning the above referenced application should be directed to the examiner, Craig A. Renner, whose telephone number is (703) 308-0559, and whose facsimile number is (703) 872-9314. The examiner can normally be reached Tuesday through Friday from 7:30 a.m. to 6:00 p.m. E.S.T.



Craig A. Renner
Primary Examiner
Art Unit 2652

CAR
June 30, 2003